

Totanus calidris Bechst. Redshank.

Ardea minuta Linn. Little Bittern.

* *Platalea leucorodios* Keys. Spoonbill. (Arguineguin.)

Phænicopterus antiquorum Temm. Flamingo. ("Charco," Maspalomas.)

Fuligula nyroca Keys. et Blas. (Isleta.)

Fuligula nigra Degl. Common Scoter. (Canaria.)

Uria troile Lath. Common Guillemot. (Canaria.)

Alca minor Briss. Little Auk. (Canaria.)

XXIX.—Notes on *Licmetis pastinator* (*Western Long-billed Cockatoo*) †. By THOMAS CARTER, M.B.O.U. (Wensleydale, Broome Hill, Western Australia).

(Text-figures 11 & 12.)

As this fine bird has, for some reason, quite disappeared from the districts where it formerly abounded, and seems to be nearing extinction, I send the following notes upon it and its present distribution. Of its life-history and habits hardly anything appears to have been written in existing ornithological literature.

GoULD, in his 'Handbook,' describes "the lores and bases of the feathers of the head and front of neck" as being *scarlet*, while Mr. A. G. North, in his *Australian Museum, Sydney, Special Catalogue No. I.* ('Nests and Eggs of Birds found Breeding in Australia and Tasmania'), gives salmon-colour for these parts, which agrees with the coloration of my series of skins, excepting that the lores and facial feathers in them are distinctly *orange* or orange-scarlet. GoULD also states that the naked space round the eye is greenish blue, but in all the birds examined by me, both alive and immediately after death, this bare skin was of a blue colour, varying from a dull leaden shade to almost

* In the Museum at Las Palmas there is a Spoonbill labelled "Puerto de Luz, 21 Oct. 1880."

† See Campbell, 'Nests and Eggs of Australian Birds,' p. 620.

bright cobalt-blue. Mr. Hall, in his "Key," gives it as "blue lead." Mr. North does not mention the colour of this part in his descriptions of *Licmetis nasica* and *L. pastinator*. Apparently Gould had no personal experience of *L. pastinator* in its wild state, and it is possible that his description of that species was made from a specimen of *L. nasica*, probably one kept in confinement.

In Mr. A. J. Campbell's 'Nests and Eggs of Australian Birds,' p. 620, he gives the distribution of *L. pastinator* as West and North-West Australia, having apparently been misled, so far as the latter district is concerned, by statements from various observers, myself included. He corrects this statement in the 'Emu,' vol. i. p. 25. The furthest northern point (of which I can find definite mention) to which *L. pastinator* extends is the Yandanooka district, about 220 miles north of Perth, W.A., where Mr. Milligan says that he observed it in September 1904 (*vide* 'Emu,' vol. iv. p. 152). Possibly it may have occurred round Geraldton, fifty miles further north, before that district was closely settled, but lat. 29° S. seems to be about its limit in recent years. Mr. North mentions specimens in the Australian Museum as having been obtained at King George's Sound [Albany] in 1886, and at the Salt River [Pallinup River] in 1868, also a specimen that was killed with poisoned wheat in a corn-field near Broome Hill in June 1889. I settled in the last-named locality in 1905, and have heard from many old residents that this Cockatoo occurred in countless numbers about the Northern and all along the Great Southern Railway districts from York to Albany, and caused such destruction to the corn-crops (mostly wheat) that boys were employed to shoot and frighten the birds away, and that it was customary to lay poisoned wheat wholesale in order to reduce their numbers.

As none of the birds were then to be seen, and as I could not learn of any district in which they were to be found, it certainly seemed as if the above-mentioned measures had been successful. Still it was hardly possible that all had been killed,

as, from what I could learn, they had suddenly disappeared a few years previously. It seemed more probable that the survivors had moved to other localities, but the puzzle was "where"? I instituted enquiries in various districts, and made several extended tours in the hope of finding a colony of these Cockatoos, in the course of which many caged specimens were seen at farms and other houses, but queries as to when and where they had been captured invariably met with the same answer, namely, that they had been taken from nests years previously, when the Cockatoos abounded, but that none had been seen for many years. From stations at the eastern extremities of the Stirling and Poron-group ranges, I learnt that the last Cockatoos had been seen there about 1900, and that single birds, or a pair, could occasionally still be met with about one hundred miles further eastwards. In the extreme south-west corner of West Australia, near Cape Leeuwin, I was told by Mr. W. Brockman, of the Warren River, that in the course of the last few years he had noted one or two Cockatoos in the dense Karri forests there, but that their appearance was now very rare. A Government surveyor at work in that neighbourhood told me that he had noticed a pair of White Cockatoos about fifty miles to the westward. In the early part of 1910 I made the acquaintance of Mr. A. Muir, who informed me that White Cockatoos could be found at certain seasons in a remote district of the south-west of this State, near the large fresh-water swamp of Tordit, where he owned an out-station. In March of that year a young farmer told me that only a few days previously he had observed a very large flock of White Cockatoos feeding on an open sand-plain not far from the above-named swamp, so I judged that at last I was getting "on their tracks." In October 1910 I received a letter from Mr. Muir stating that the Cockatoos were numerous on his out-station, and that young birds were being hatched out. He very kindly invited me to visit him, but I was unable to leave home then. In April 1911 I took a circular driving tour of more than two hundred and fifty miles through

localities where the birds had once been plentiful, but had not been seen for many years, and visited Mr. Muir's station. On my arrival, however, I was told to my great disappointment that the birds had been there early in March in considerable numbers, but had left before the end of that month. Mr. F. Muir, who manages his father's station, told me that many years previously the Cockatoos had been abundant and were very destructive to his corn-crops. They then completely disappeared for many years, but about three years ago had returned and were increasing in numbers. He also said that they would come back again as soon as the winter rains commenced.

I stayed some days at this station, but, seeing no signs of the birds wanted, returned home, and early in June received a letter saying that the Cockatoos were at their old haunts! In December last, through the great kindness of Mr. Muir, who lent me a horse and carriage for the long drive from the railway, I was able to revisit the swamps, where I spent ten days. A few miles before arriving at the house several pairs of *Licmetis pastinator* were observed flying about, and when the corn-crop was sighted I had the pleasure of seeing hundreds of the birds busily feeding on the tops of the stooks, many of which were white with their numbers, much to the disgust of Mr. F. Muir, who had accompanied me. He begged me to shoot as many as possible, and upon walking round the crop, some of which was still uncut, his anger increased on finding that a strip about two hundred yards in length, and thirty in width, was completely ruined by having been pulled down and trampled flat on the ground by his unwelcome visitors (see text-fig. 11, p. 631). To obtain specimens required a good deal of patient stalking, which was often unsuccessful, as sentinel birds were always placed on the summits of the lofty trees. However, a good series of skins was obtained, and some notes on the birds' "habits" made, for many of which I am indebted to Mr. Muir. To my surprise, every Cockatoo killed had the whole of the feathers on the under part of the

body thickly smeared over with dry mud and vegetable stains, giving the birds a very dirty appearance. Close scrutiny of great numbers of the Cockatoos through my binoculars at various times, when they were perched on the summits of dead trees, failed to reveal any that had really clean under-plumage, and I was informed that this dirty

Text-fig. 11.



Strip of standing wheat-crop trampled flat and destroyed
by *Licmetis pastinator*.

condition is the normal state, and that the only clean birds are recently fledged young, which soon become like the rest. Some specimens presented to me, that had been shot in July, were also dirty. I find no mention of this soiled plumage in any account of the birds that I have read.

When corn is not obtainable, the Western Long-billed Cockatoo feeds largely (like its eastern form, *Licmetis nasica*) upon the bulbs and roots of various plants. One of its

favourite foods is the bulb of a small species of Sundew (*Drosera*) that grows as soon as winter rains fall, bearing a small white flower. The scarlet berries of a small creeping plant (the name of which is unknown to me) that grows abundantly on sand plains are also much eaten. Probably the March visits of the Cockatoos to the station are made in order to feed upon the newly sown wheat-grains. The locality is mostly heavy timber country in its natural state, the nearest homestead to the eastward being about forty miles distant, and the country to the south and west being much the same accounted for the Cockatoos taking such heavy toll of Mr. Muir's crops.

The breeding-season commences apparently in September, continuing through October, when the young are mostly hatched. Two or three eggs is the usual clutch, and the nesting-cavity is almost invariably in the ends of hollow limbs or in the main stem of large living Red Gum Trees (*Eucalyptus calophylla*). Ring-barked trees (*i. e.* trees purposely killed by the axe) were not chosen for nesting-sites, neither were the Jarrah trees, which were more numerous than Red Gums and grew along with them.

Several nesting-cavities came under my notice, evidently containing young birds, but all were in inaccessible situations (to me), and the station hands were too busy harvesting to spare the time to fell one of the giant trees. One hole was shown me, about thirty feet only from the ground, in the trunk of a very large Red Gum, where a brood had been reared for three consecutive years. Apparently the young birds remain in the nesting-place until they are strong on the wing, as Mr. F. Muir said that he and some of his men had several times cut down a tree to obtain youngsters, and just as the tree was falling they had emerged and flown strongly away. One nest, from which a parent bird had been observed to fly on different occasions (see text-fig. 12, p. 633) was placed in a tall green (*i. e.* living) Red Gum, surrounded on all sides by acres of gaunt dead trees. The sitting birds leave the nests rather wildly, and do not readily return.

At the earliest signs of dawn, long before sunrise, the

Cockatoos are on the wing, and are very noisy and restless throughout the day, feeding at all hours. On one occasion only did I see them shew any degree of tameness. I was engaged in examining the old nest of a Shelduck, which was placed about twenty-five feet from the ground in the hollow limb of a Yate-tree, when two Cockatoos perched in the upper

Text-fig. 12.



Living Red Gum-tree in the foreground containing a nest
of *Licmetis pastinator*.

branches and exhibited great curiosity as to my doings. The tree was growing on the edge of the corn-crop, and doubtless the birds had settled in it, preparatory to a feed of corn, before they noticed my presence.

In Mr. North's account of this species, in his 'Nests and Eggs,' he quotes a letter from Mr. Kearthland saying that "a friend of his took an egg of *L. pastinator* in S.W. Australia in *March* 1895, and afterwards found two

more nesting-places, each containing a young bird." March, is of course, one of our hottest and driest months, and seems a very unlikely breeding-time, but perhaps I have misunderstood the quotation or it was meant that the letter was written in March. Mr. North also quotes from a note of Mr. Keartland's that *Licmetis nasica*, which was formerly abundant in Riverina, had deserted that district when sheep took the place of cattle on the grazing stations. Now, in the case of Mr. Muir's out-station, visited by me, the reverse seems to be the case, as in former years cattle *only* were run there, but in recent years, when *Licmetis pastinator* has been abundant, sheep only have been kept. Most probably the isolated corn-crop there is the great attraction at the breeding-season.

The average weight of *Licmetis pastinator* seems to be about 1 lb. 10 oz., as two lots of four birds that were weighed each amounted to 6½ lbs. and a lot of three birds 5¼ lbs.

I may mention that Cockatoos make an excellent stew, the meat being plump and tender. Wounded birds will savagely attack and bite one's boots, and need to be carefully handled.

Measurements of Licmetis pastinator in inches.

Date.	Sex.	Total length.	Wing.	Tail.	Bill.	Tarsus.
1/12/11	♂	17.5	12	6	1.9	1
1/12/11	♂	18.5	13	7.25	2.1	1
4/12/11	♂	18.25	12.5	7	1.75	1
4/12/11	♂	18.75	12.75	6.5	1.95	.95
4/12/11	♂	18.5	13	7	2.1	1
25/7/11	♂	19	12.5	6.75	2.1	.9
4/12/11	♂	18.5	12	7	1.75	.95
1/12/11	♂	18.75	13	7	broken	1.5
4/12/11	♂	17.25	12.25	6.75	1.95	.9
1/12/11	♂	18.75	12.25	6.5	1.8	.9
25/7/11	♂	18.5	12	6.75	1.75	1
4/12/11	♂	17.75	12	6	1.9	.95
4/12/11	♂	18	11.75	7	1.8	1
4/12/11	♂	18.5	12.25	7	1.7	.95
6/12/11	♀	18.75	12.25	7	1.8	.9
Giving an Average } for males of . . . }		18.4	12.62	6.8	1.98	.98
and for females . . . }		18.2	12.8	6.6	1.8	1